

Appl. No. 10/055,474
Amdt. Dated June 6, 2005
Reply to Office Action of March 9, 2005

Docket No. CM02045K
Customer No. 24,273

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously presented) A button mechanism, comprising:
a switch means for operating a button circuit in response to actuation of the button mechanism;
display means disposed in correspondence with the switch means and comprising:
a driver layer having a conductor element configured in the form of a symbol to be displayed on the button mechanism, and a conductive trace connected to the conductor element for providing voltage to the conductor element;
a transparent conductor layer; and
an electrically active ink layer disposed between the transparent conductor layer and the driver layer.
2. (Previously presented) A button mechanism as defined in claim 1, wherein the conductor element comprises:
a first set of conductor elements corresponding to a first symbol, and connected to a first set of conductive traces; and
a second set of conductor elements corresponding to a second symbol and connected to a second set of conductive traces;
wherein the first and second symbols are coincidentally located.
3. (Previously presented) A button mechanism as defined in claim 2, further comprising a third set of conductor elements which form segments common to both the first and second symbols, and are connected to a third set of conductive traces.

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4. (Original) A button mechanism as defined in claim 2, wherein the first and second symbols are not commonly oriented.

5. (Original) A button mechanism as defined in claim 1, wherein the switch means comprises a popple switch.

6. (Original) A button mechanism as defined by claim 5, further comprising a transparent actuating member disposed in correspondence with the popple switch, such that the display means is between the popple switch and the transparent actuating member.

7. (Original) A button mechanism as defined in claim 6, wherein the transparent actuating member has a convex outer surface.

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8. (Currently amended) An adaptable keypad, comprising:
a plurality of keys, each of the plurality of keys comprising:
a switch means for operating a button circuit in response to actuation of the button mechanism;
a flexible display means disposed in correspondence with the switch means and comprising:
a driver layer having a conductor element in the form of a symbol to be displayed by the button mechanism, and a conductive trace connected to the conductor element for providing voltage to the conductor element;
a transparent conductor layer; and
an electrically active ink layer disposed between the transparent conductor layer and the driver layer.

9. (Previously presented) An adaptable keypad as defined in claim 8, wherein the conductor element of each key comprises:
a first set of conductor elements corresponding to a first symbol, and connected to a first set of conductive traces; and
a second set of conductor elements corresponding to a second symbol and connected to a second set of conductive traces;
wherein the first and second symbols are coincidentally located.

10. (Previously presented) An adaptable keypad as defined in claim 9, each key further comprising a third set of conductor elements which form segments common to both the first and second symbols, and are connected to a third set of conductive traces.

11. (Original) An adaptable keypad as defined in claim 9, wherein the first and second symbols are not commonly oriented.

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12. (Currently amended) An adaptable keypad as defined in claim 9, wherein the first set of conductor elements for each of the plurality of keys forms a first symbol set, the second set of conductor elements for each of the plurality of keys forms a second symbol set, the first and second symbol sets are exclusively energized depending on a mode of operating the keypad, wherein the keypad is usable in at least two modes, each mode requiring using a different orientation.

13. (Original) An adaptable keypad as defined in claim 8, wherein each of the switch means comprises a popple switch.

14. (Currently amended) An adaptable keypad as defined by claim 13, further comprising a plurality of transparent actuating members, each of the transparent actuating members disposed in correspondence with each of the popple switches, such that the display means is between the popple switches and the transparent actuating members, and wherein each of the plurality of transparent actuating members is held in place by a housing.

15. (Original) An adaptable keypad as defined in claim 13, wherein each of the transparent actuating members has a convex outer surface.

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16. (Currently amended) A portable electronic device having an adaptable keypad, the portable electronic device operable in a plurality of modes, the portable electronic device comprising:

a keypad having a plurality of keys, each of the plurality of keys comprising:

a switch means for operating a button circuit corresponding to the switch means in response to [actuation of] the button mechanism being depressed;

a flexible display means disposed in correspondence with the switch means and comprising:

a driver layer having a first set of conductor elements corresponding to a first symbol and connected to a first set of conductive traces, and a second set of conductor elements corresponding to a second symbol and connected to a second set of conductive traces, and wherein the first and second symbols are coincidentally located in correspondence with one of the plurality of keys;

a transparent conductor layer;[and]

an electrically active ink layer disposed between the transparent conductor layer and the driver layer[.]; and

a plurality of transparent actuating members, each of the transparent actuating members disposed in correspondence with one of the plurality of keys, and wherein each of the plurality of transparent actuating members is held in place by a housing of the portable electronic device.

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17. (New) A button mechanism for an electronic device, comprising:
a switch means for operating a button circuit in response to actuation of the button mechanism;
a flexible display means disposed in correspondence with the switch means and comprising:
a driver layer having a conductor element configured in the form of a symbol to be displayed at the button mechanism, and a conductive trace connected to the conductor element for providing voltage to the conductor element;
a transparent conductor layer; and
an electrically active ink layer disposed between the transparent conductor layer and the driver layer;
wherein the flexible display means allows depression of the switch means to complete the button circuit.

18. (New) A button mechanism as defined in claim 17, wherein the conductor element comprises:
a first set of conductor elements corresponding to a first symbol, and connected to a first set of conductive traces; and
a second set of conductor elements corresponding to a second symbol and connected to a second set of conductive traces;
wherein the first and second symbols are coincidentally located, and wherein the first and second set of conductor elements and first and second set of conductive traces are all located on a single layer.

19. (New) A button mechanism as defined in claim 18, further comprising a third set of conductor elements which form segments common to both the first and second symbols, and are connected to a third set of conductive traces.

20. (New) A button mechanism as defined in claim 18, wherein the first and second symbols are not commonly oriented.

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21. (New) A button mechanism as defined in claim 17, wherein the switch means comprises a popple switch.

22. (New) A button mechanism as defined by claim 21, further comprising a transparent actuating member disposed in correspondence with the popple switch, such that the display means is between the popple switch and the transparent actuating member.

23. (New) A button mechanism as defined in claim 6, wherein the transparent actuating member has a convex outer surface.